

Montgomery County Department of Transportation MD 191 (Bradley Boulevard) at MD 188 (Wilson Lane)

Intersection Improvements



June 22, 2021

Montgomery County Department of Transportation MD 191 (Bradley Boulevard) at MD 188 (Wilson Lane)

Intersection Improvements

Bradley Boulevard Bikeway facility planning study

1. Bradley Boulevard Bikeway project between Wilson Lane and Glenbrook Drive
2. Mandatory Referral, went to MNCPPC for review
3. Alternative 4A approved with comments
4. Based on MNCPPC comments, left-turn lanes on all 4 approaches at intersection of Bradley Boulevard and Wilson Lane were later recommended
5. Project is advancing from preliminary to final design.

Figure II-5. Alternate 4A – 8' Shared Use Path North Side and Sidewalk South Side with Bikeable Shoulders Typical Section Looking East (Recommended Alternate)

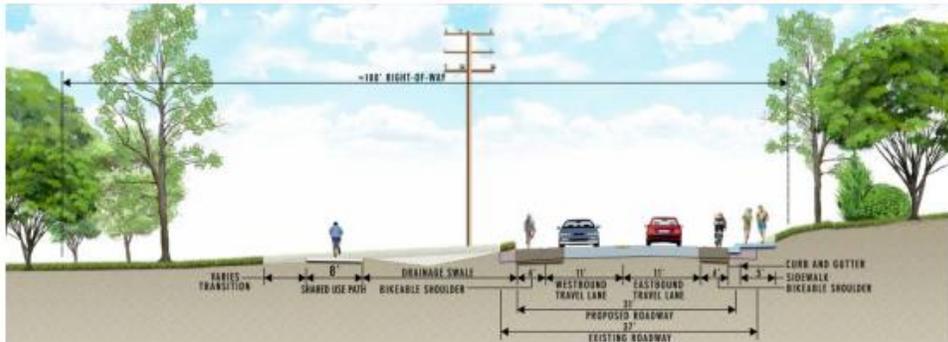


Image from Bradley Boulevard (MD 191) Improvements Project Report – May 2011

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Traffic Intersection Study

1. Compared Existing Condition to Proposed Future Conditions
 - i. Traffic Operational Analysis
 - ii. Crash Analysis
2. Determined required length of proposed left turn lanes
3. Determined appropriate traffic signal phasing
4. Study approved by MDOT SHA on 01/08/2020

Table 4: Left Turn Lane Storage Lengths

Proposed Conditions					
Approach	SimTraffic 95th Percentile Queue Length		Deceleration Length (ft)	Taper Length (ft)	Total Turn Lane Length (ft)
	AM Peak	PM Peak			
NBL (MD 191)	65	150	50	100	300
SBL (MD 191)	140	125			290
EBL (MD 188)	35	40			190
WBL (MD 188)	85	160			310

95th Percentile Queue Length used for storage length calculation

Table 1: Capacity Analysis Results – Existing Conditions

Approach	Existing Condition				AM Peak v/c (0.81) LOS = C	PM Peak v/c (0.93) LOS = E
	HCM 6 (Delay/LOS)					
	AM Peak		PM Peak			
NB (MD 191)	8.9	A	29.2	C		
SB (MD 191)	14.8	B	22.2	C		
EB (MD 188)	27.8	C	25.6	C		
WB (MD 188)	26.3	C	42.8	D		
Intersection Overall	17.3	B	30.0	C		

Table 3: Traffic Operations Results – Proposed Condition

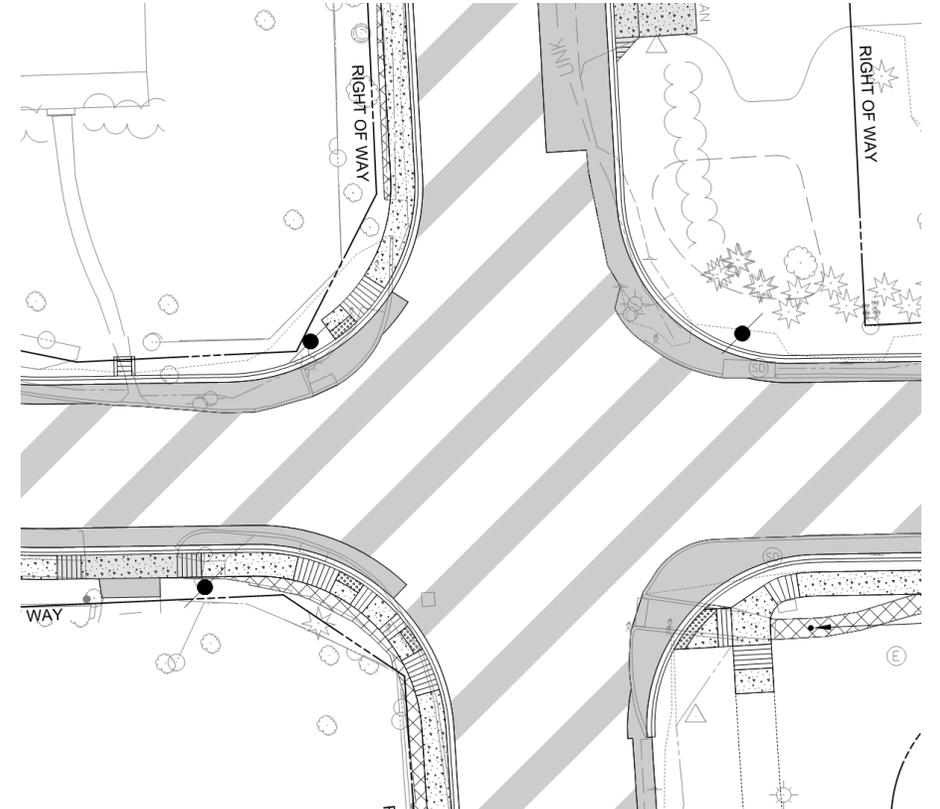
Approach	Proposed Condition (Left Turn Lane on All Four Approach)					
	HCM 6 (Delay/LOS)				CLV	
	AM Peak		PM Peak		AM Peak	PM Peak
NBL (MD 191)	22.4	C	22.8	C	v/c (0.72) LOS = B	v/c (0.80) LOS = C
NBTR (MD 191)	9.6	A	18.9	B		
NB Approach	10.5	B	19.2	B		
SBL (MD 191)	13.2	B	29.5	C		
SBTR (MD 191)	14.5	B	15.1	B		
SB Approach	14.4	B	16.3	B		
EBL (MD 188)	23.6	C	35.6	D		
EBTR (MD 188)	24.5	C	22.0	C		
EB Approach	24.5	C	22.8	C		
WBL (MD 188)	29.6	C	26.9	C		
WBTR (MD 188)	21.4	C	32.4	C		
WB Approach	23.1	C	31.9	C		
Intersection Overall	16.5	B	21.9	C		

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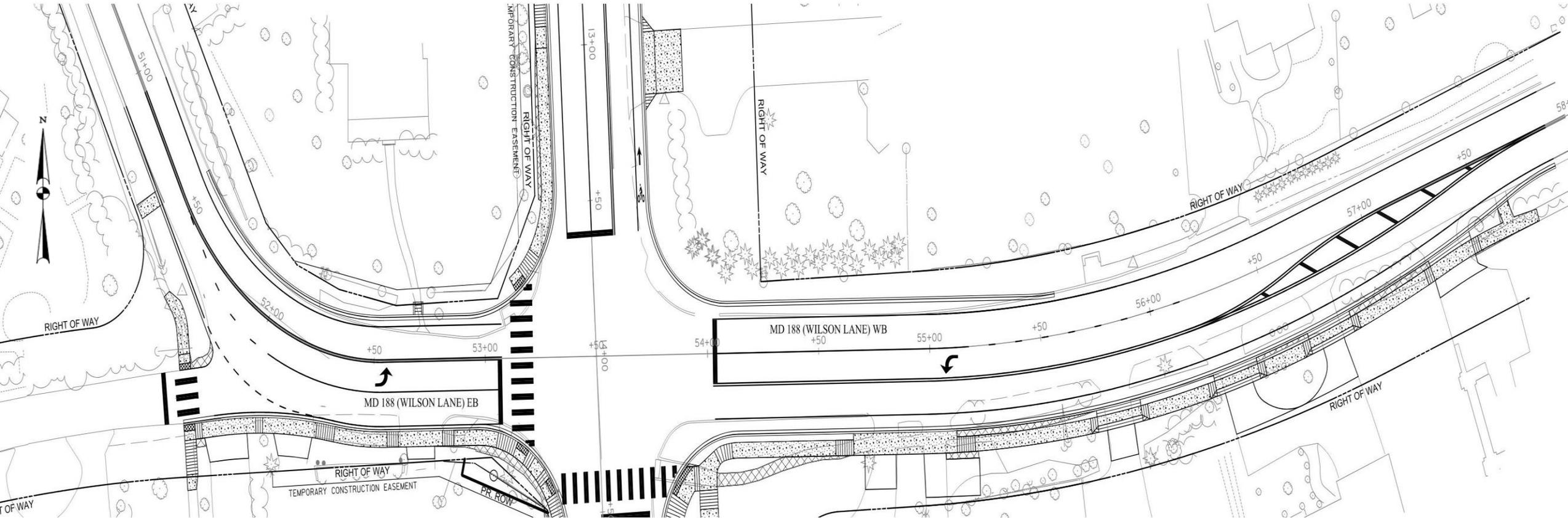
Geometric Improvements

1. Widening both MD 191 and MD 188
 - i. Add dedicated left turn lanes for all approaches
 - ii. Add 5' bike lanes along MD 191 (Bradley Blvd)
2. Rebuild existing pedestrian sidewalks to be 5' wide concrete sidewalks
3. Add new 5' sidewalk to extend existing pedestrian sidewalk along west side of MD 191 to the intersection



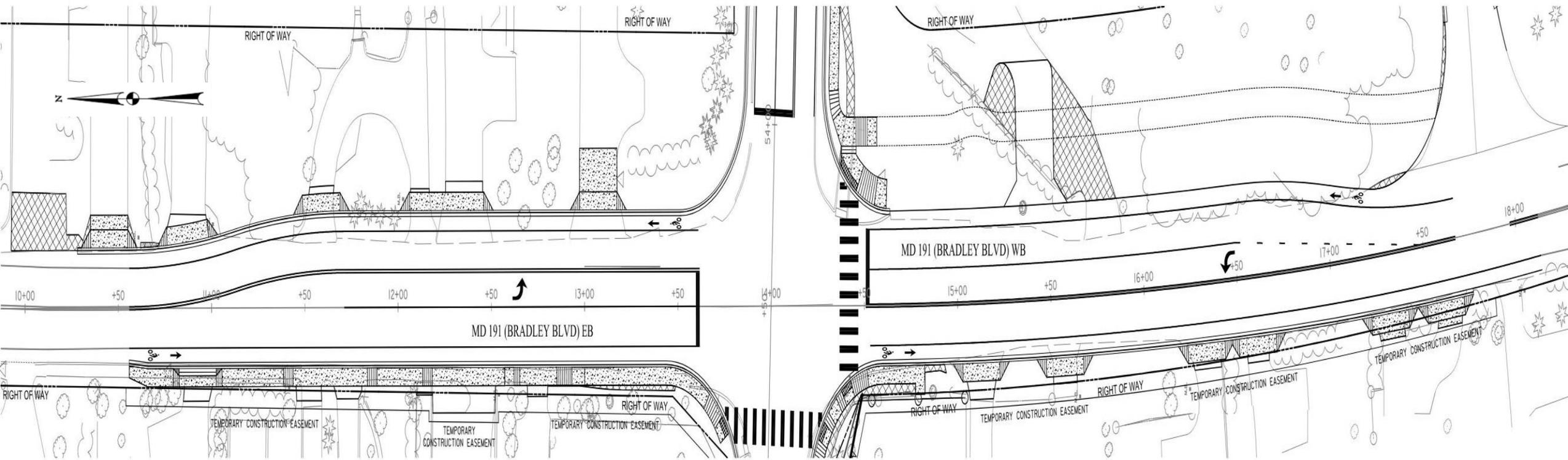
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Pavement Markings along MD 188 (Wilson Lane)

Montgomery County Department of Transportation MD 191 (Bradley Boulevard) at MD 188 (Wilson Lane) Intersection Improvements



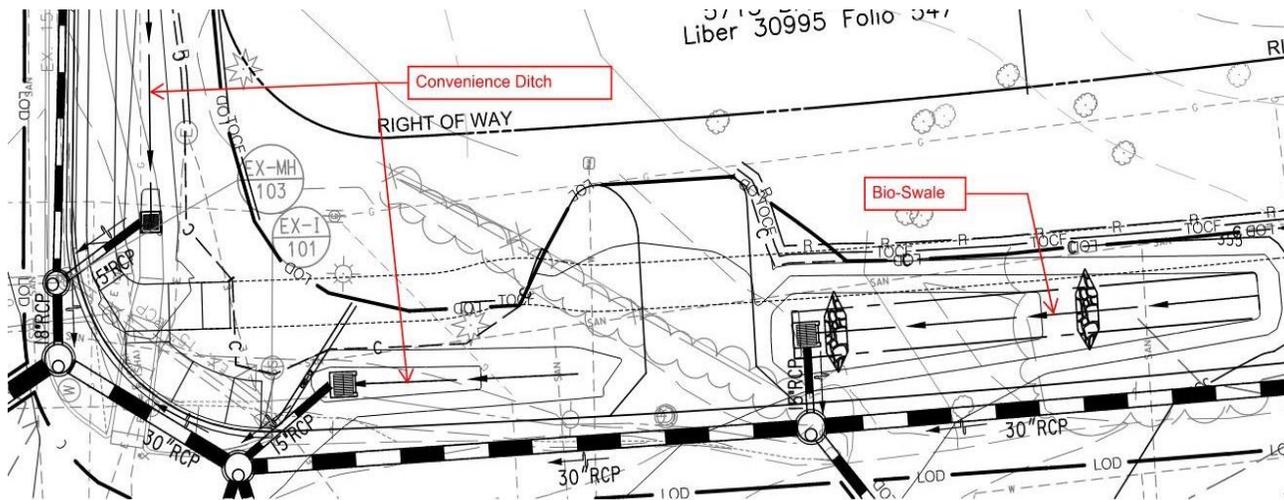
Pavement Markings along MD 191 (Bradley Boulevard)

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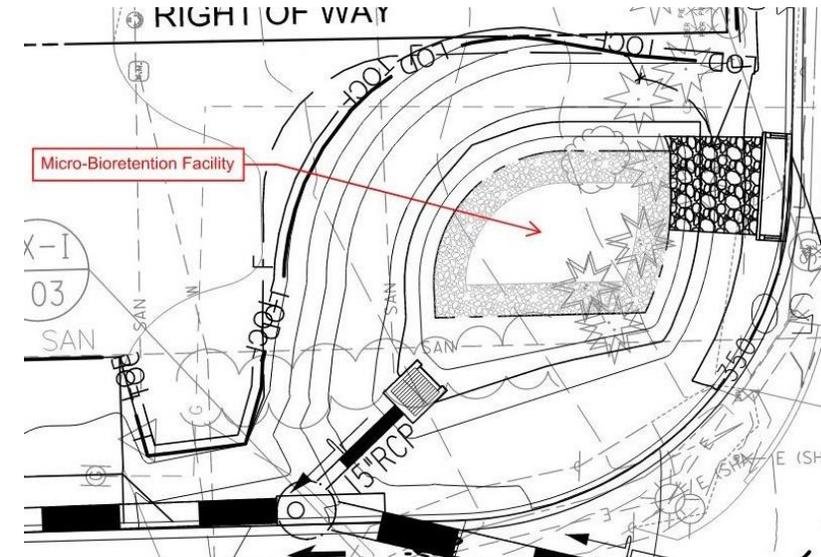
Intersection Improvements

Drainage Improvements

1. Rebuild drainage system for new geometrics
2. Add standard stormwater management facilities
 - i. One bioswale along northbound Bradley Blvd on south side
 - ii. Two convenience ditches along Bradley & Wilson
 - iii. Two micro-bioretention facilities in northeast corner of intersection and northeast corner of McLean Dr.



Bioswale & Convenience Ditches along MD 191



Micro-bioretention – NE corner of MD 191 & MD 188

Stormwater management facilities are being constructed to help control runoff from the developed areas and minimize the discharge of pollutants into the environment.

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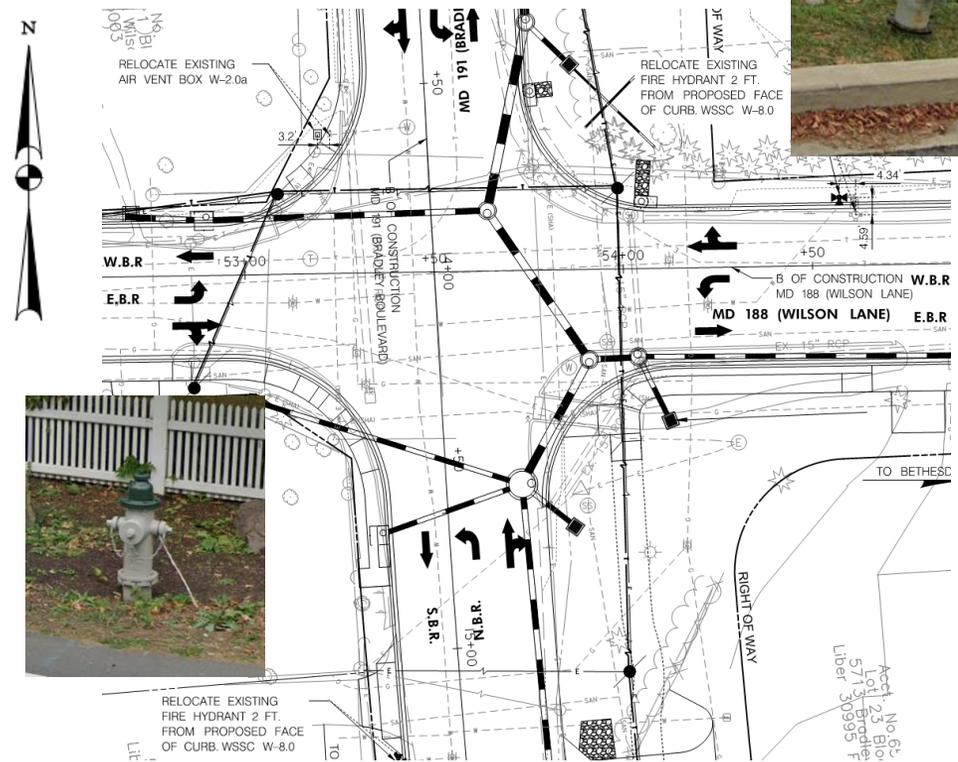
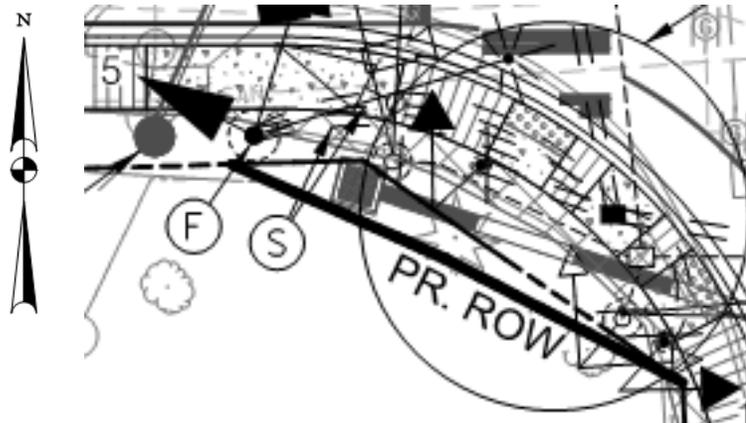
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Utilities

1. Relocate 5 PEPCO utility poles
2. Washington Suburban Sanitary Commission (WSSC)
 - i. Relocate 3 fire hydrants
 - ii. Relocate water main air vent box

Right-of-Way

1. Proposed ROW in SW corner of intersection for drainage
2. Temporary Construction Easements for driveway reconstruction and grading along south side of Bradley Blvd.



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Bradley Boulevard looking north – Existing

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Bradley Boulevard looking north – Proposed

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Bradley Boulevard looking south – Existing

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Bradley Boulevard looking south – Proposed

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Intersection Improvements



Wilson Lane looking east – Existing

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Wilson Lane looking east – Proposed

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Wilson Lane looking west – Existing

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Wilson Lane looking west – Proposed